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(FILE 'HOME' ENTERED AT 13:47:49 ON 24 SEP 2002)

FILE 'REGISTRY' ENTERED AT 13:47:59 ON 24 SEP 2002

L1 6 (.1<CR<1 AND 0<AG<.5 AND 0<TI<.2 AND 0<SI<.5 AND 0<FE<.5 AND 50

FILE 'HCAPLUS' ENTERED AT 13:49:20 ON 24 SEP 2002

L2 5 L1

SELECT L2 IPC 1 2

L3 97371 E1-6

E DE19600864/PN

L4 1 E3

FILE 'REGISTRY' ENTERED AT 13:57:23 ON 24 SEP 2002

L5 571 (50<CU AND 0<AG<.5)/MAC

FILE 'HCAPLUS' ENTERED AT 13:57:55 ON 24 SEP 2002

L6 624 L5

L7 273 L6 AND L3

L8 61 L7 AND (SILVER OR AG) AND (TITANIUM OR TI) AND (CHROMIUM OR CR)

L9 56 L8 NOT L2

AN 1988:117196 HCAPLUS
 DN 108:117196
 TI Copper alloy for semiconductor lead frames
 IN Shiga, Shoji; Tanigawa, Toru; Oyama, Yoshimasa; Asai, Masato; Shinozaki, Shigeo
 PA Furukawa Electric Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 62182240	A2	19870810	JP 1986-24782	19860206
AB	<p>The Cu alloy contains Cr 0.1-5 and Si 0.02-1.0 with .gtoreq.1 of 0.01-0.15, As 0.01-0.15, Sb 0.01-0.15, Ni 0.05-1, Co 0.05-1, Zr 0.01-0.5, Mg 0.01-0.5, Fe 0.01-1, Zn 0.05-3, Sn 0.05-3, Al 0.05-1, Be 0.05-0.3, Mn 0.01-1, Ta 0.01-1, Nb 0.01-1, Te 0.01-0.5, Ag 0.01-1, misch metal 0.01-1, and/or Ti 0.01-1% for total of 0.01-0%. Thus, a trimmed ingot (25 mm thick) of Cu alloy contg. Cr 3.6, Si 0.16, and P 0.05% was heated to .gtoreq.700.degree., hot-rolled into a plate 5 mm thick, quenched with water, and pickled. The plate was cold-rolled into a sheet 0.81 mm thick, heat-treated at 350.degree., and cold-rolled to 0.31 mm thick. The sheet showed elec. cond. 57% of IACS, tensile strength 61 kg/mm2, elongation 4.5%, solderability 0.8 kg/mm2 (in a pulling test after soldering and heating at 150.degree.), and stress-corrosion cracking 7300 h (after immersion in aq. nitrate soln.), vs. 64% IACS, 49 kg/mm2, 4.4%, 0.5 kg/mm2, and 7300 h for conventional C194 Cu alloy.</p>				

AN 1988:554549 HCAPLUS
 DN 109:154549
 TI Manufacture of high strength electric conductor copper alloys
 IN Shiga, Shoji; Tanigawa, Toru; Oyama, Yoshimasa; Asai, Masato; Shinozaki, Shigeo
 PA Furukawa Electric Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF

DT Patent
 LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 63109132	A2	19880513	JP 1986-256227	19861028
	JP 05075812	B4	19931021		

AB Cu alloys for electronic uses contain **Cr** 0.01-1, Zn 0.01-1, O .ltoreq.0.04, S .ltoreq.0.002, and .gtoreq.1 optional elements 0.01-5%. The other optional elements and their contents are **Ag**, Be, and Mg .ltoreq.0.2 each, Ca .ltoreq.0.1, Cd .ltoreq.0.5, B .ltoreq.0.1, Al .ltoreq.1, In, Y, Tl, Ge, Ga, As Fe, and P .ltoreq.0.1 each, Pb, V, Nb, and Ta .ltoreq.0.05 each, Zr .ltoreq.0.2, **Si**, **Ti**, Sb, and Mn 0.5 each, Fe .ltoreq.3, Ni .ltoreq.1, Co .ltoreq.1, and rare earth metals .ltoreq.0.2%. The alloys are hot worked at 850-1000.degree., cooled at .ltoreq.5.degree./s to 400.degree. and cold worked at .gtoreq.0% redn., and heat treated at 400-500.degree.. The alloys have improved elec. cond., heat resistance and solderability, and are used for lead frames. Thus, a copper alloy ingot contg. **Cr** 0.25, Zn 0.62, O 0.0009, S 0.0008, Mg 0.05, and P 0.03% was heated to 920.degree., hot rolled to 5 mm-thick and water cooled, cold rolled, process annealed, cold rolled and heat treated for 0.5 h at 280.degree. to manuf. 0.25 mm-thick sheet. The Cu alloy sheet has tensile strength 55.1 kg/mm2, elongation 9.1%, elec. cond. 86.5% (IACS), and solder strength 0.81 kg/mm2 as compared 50.6 kg/mm2, 5.5%, 88.9%, and 0.36 kg/mm2, resp., of a conventional Cu conductor.

AN 1989:139909 HCAPLUS
 DN 110:139909
 TI Pitting corrosion-resistant copper alloy pipes for hot-water supply systems
 IN Takeya, Toshiyuki; Kunieda, Hiroshi
 PA Furukawa Electric Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 3 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 63293129	A2	19881130	JP 1987-128949	19870526
AB	The Cu alloy for pitting-resistant pipes contains Fe 0.2-1.5, P .ltoreq.0.04, and .gtoreq.1 of Pd, Ag , As, Mn, Sn, Ti , and Cr .ltoreq.3.0 each, Mg 0.06-3.0, Si 0.25-3.0, and Zn 1.1-3.0%. Thus, the Cu alloy contg. Fe 1.17, P 0.03, and Pd 0.07% was hot extruded and cold drawn into a pipe. The pipe showed the max. pitting depth of 0.18 mm in running tap water (60.degree.) contg. 2.0-3.0 mg Cl/L for 45 days.				

AN 1989:501566 HCAPLUS
DN 111:101566
TI Copper alloy for sliding materials
IN Watanabe, Hiroaki; So, Hidehiko
PA Nippon Mining Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 63303020	A2	19881209	JP 1987-138306	19870603
AB	The Cu alloy contains Cr 0.1-1.0, Zr 0.1-1.0, and optionally Si 0.01-0.5, Zn, Ni, P, Sn, Mg, Mn, Fe, Al, Ti, Be, Ag , Pb, and/or Sb 0.01-1.0%. The resp. Vickers hardness, heat cond., and softening point (after heating 5 min at 400.degree.) are 213, 2.99 J/cm-s-.degree., and 215.				

AN 1990:427854 HCAPLUS
 DN 113:27854
 TI Copper alloy lead materials for plastic p-i-n grid arrays
 IN Asai, Masato; Tanigawa, Toru
 PA Furukawa Electric Co., Ltd., Japan; Furukawa Tokushu Kinzoku K. K.
 SO Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKXXAF

DT Patent
 LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 01198441	A2	19890810	JP 1988-21586	19880201
AB	<p>The materials with high strength and elec. cond., and excellent solderability contain Ti 0.01-0.6; Ni 0.1-4.0; Sn 0.1-4.0; Zn 0.05-5.0, Mn 0.01-1.0, Mg 0.001-0.5, and/or Cr 0.001-0.4% (0.001-5.0% total); P <100; S <10; and O <20 ppm; and optionally V, Fe, Co, Al, Si, Zr, and Cd 0.005-1.0 and Ag, Y, Ge, Sb, Te, In, and/or rare earth metals 0.001-0.2 (0.001-1.0% total). The resp. tensile strength, elongation, elec. cond., and bonding strength in brazing with Cu for a Cu alloy lead material contg. Ti 0.05, Ni 0.8, Sn 0.4, Mg 0.08%, P 8, S 5, and O 6 ppm were 58.4 kg/mm², 4.2%, 63% IACS, and 0.88 kg/mm² vs. 70.5 kg/mm², 2.0%, 3% IACS, and 0.87 kg/mm² for the conventional Fe-42% Ni alloy lead material.</p>				

AN 1991:148463 HCAPLUS
 DN 114:148463
 TI Copper alloys for bus bars and electric contacts
 IN Oyama, Yoshimasa; Ogiwara, Yoshiaki; Shinozaki, Shigeo; Asai, Masato
 PA Furukawa Electric Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 4 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 02253505	A2	19901012	JP 1989-73088	19890324
AB	The Cu alloys resistant to elec.-induced migration contain Zn 0.2-10, Ni and/or Si 0.02-3.5%, and optionally Sn, Fe, Cr , Co, Zr, Ti , Mg, Y, Mn, Ag , Al, Pb, and/or misch metal .ltoreq.1 each or .ltoreq.2% total.				

AN 1992:10044 HCAPLUS
 DN 116:10044
 TI Manufacture of copper alloy sheets for radiator plates
 IN Toe, Tamio; Tsuji, Masahiro
 PA Nippon Mining Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 03068733	A2	19910325	JP 1989-203761	19890808
AB	<p> The Cu alloys contg. Zn 5-30, Sn 0.01-5, and optionally Ni 0.1-10, Si 0.01-3, and Al, Fe, Pb, As, Sb, B, Co, Cr, Mn, Te, In, Ti, Zr, Hf, Be, Mg, Ag, Cd, and/or Ge 0.001-2.0% are cold rolled to intermediate thickness, and the sheet is annealed and then cold rolled at 3-20% redn. The cold-rolled Cu alloy sheets have high strength, stress corrosion cracking resistance, and good brazing, and are esp. useful for radiator plates. Thus, cold-rolled Cu-8.0 Zn-1.5% Sn alloy sheet showed tensile strength of 30.2, yield strength 12.1 kg/mm², and high stress corrosion cracking resistance, and was suitable for brazed assemblies. </p>				

AN 1992:656227 HCAPLUS
 DN 117:256227
 TI Copper alloy for electric conductors
 IN Toe, Tamio; Tsuji, Masahiro
 PA Nippon Mining Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 04180532	A2	19920626	JP 1990-306024	19901114
AB	The Cu alloy contains O .ltoreq.20 ppm, Si 0.05-1, Ni, Fe, co, Cr , and/or Ti 0.05-1, and optionally Zn, Sn, Mg, Mn, Al, b, P, As, Sb, Ag , Pb, Bi, and/or Zr 0.001-5%, has a grain size of <30 .mu.m, and is migration-resistant.				

AN 1993:64960 HCAPLUS
 DN 118:64960
 TI High-strength copper alloys for plastic molding apparatus
 IN Hirano, Yasuo; So, Hidehiko
 PA Nippon Mining Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 4 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 04221031	A2	19920811	JP 1990-413303	19901221
AB	The copper alloys contain 0.1-1.5% Be. The alloys optionally contain 0.001-3.0% Zn, P, Sn, As, Cr , Mg, Mn, Sb, Fe, Co, Al, Zr, Ti , Ag , Pb, B, Ni, Si , and lanthanoids. The alloys are prepd. by hot forging, soln. annealing at .gtoreq.600.degree., cooling at .gtoreq.1.degree./s, cold working at draft .gtoreq.20%, and aging at 250-500.degree.. The manufd. alloys show thermal shock resistance.				

AN 1994:329015 HCAPLUS
 DN 120:329015
 TI Welded copper alloy tubes having grooves at the inner surface
 IN Suzuki, Takeshi; Futatsuka, Rensei; Kumagai, Seiji; Masukawa, Seizo;
 Sukumoda, Toshitsuka
 PA Mitsubishi Shindo Kk, Japan
 SO Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 06058688	A2	19940304	JP 1992-214391	19920811
	JP 2758536	B2	19980528		
AB	The title Cu alloy tubes are made from Cu alloy contg. 0.01-0.5% Fe, Cr , Mn, Ni, Ag , Zn, Sn, Al, Si , Pb, Mg, Te, Zr, B, and/or Ti and optionally 0.005-0.05% P, and the grain size at the weldment is .ltoreq.2 times larger than that in other parts. The Cu alloy tubes have excellent workability and are used for heat exchangers.				

AN 1994:684854 HCAPLUS
 DN 121:284854
 TI Copper alloy having electric resistance of low temperature coefficient and its manufacture
 IN Nakamura, Naoji
 PA Denki Jiki Zairyo Kenkyusho, Japan
 SO Jpn. Kokai Tokkyo Koho, 16 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 06235036	A2	19940823	JP 1993-22741	19930210
AB	<p> The Cu alloy contains 0.01-15% Ni and 0.01-10% Pd and/or 0.01-10% Fe with (Pd + Fe) = 0.01-10%, and has elec. resistivity 4-20 $\mu\Omega\cdot\text{cm}$ and temp. coeff. of elec. resistance 250-2000 $\times 10^{-6} \text{ degree.C}^{-1}$. The Cu alloy addnl. contains Mn 0.01-0.5 and/or Cr 0.01-0.5 with (Mn + Cr) = 0.01-0.5, and Au 0.01-1.5, Ag 0.01-2, Pt 0.01-1.5, Zn 0.01-0.1, Al 0.01-0.5, Sn 0.01-1.0, Ti 0.01-0.5, and/or Si 0.01-0.5 (total 0.01-2%). The Cu alloy is manufd. by remelting the alloy in vacuum or in an inert atm., casting at solidifying speed 1-150.degree./min-cm³, rapid cooling the cast Cu alloy from .gtoreq.800.degree., homogenizing in vacuum or in an inert atm. at .gtoreq.500.degree. for 1 min up to 15 h, working into wire or ribbons, and softening. The Cu alloy is particularly used for manuf. of device for measurement of micro displacement. </p>				

AN 1997:564923 HCAPLUS
 DN 127:165291
 TI Copper-chromium-titanium-silicon alloy and its use
 IN Boegel, Andreas; Bohsmann, Michael
 PA Wieland-Werke Ag, Germany
 SO Eur. Pat. Appl., 7 pp.
 CODEN: EPXXDW
 DT Patent
 LA German
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 784099	A2	19970716	EP 1997-100093	19970104
	EP 784099	A3	20000308		
	R: CH, DE, ES, FI, FR, GB, IT, LI, SE				
	DE 19600864	A1	19970717	DE 1996-19600864	19960112 <--
	DE 19600864	C2	20000210		
PRAI	DE 1996-19600864		19960112		
AB	The Cu alloy contains Mg 0.02-0.8 in addn. to Cr 0.10-0.50, Ti 0.01-0.25, and Si 0.01-0.10%. Optionally, the alloy contains Sn 0.01-1 which can be completely or partially substituted by In. The alloy can also contain Zn 0.05-2%. The alloy is suitable for manuf. of electronic parts (e.g., transistor supports, integrated circuits) and elec. parts (contact rails, elec. relays, spring contacts, plug connectors).				

AN 1988:25949 HCAPLUS
DN 108:25949
TI Copper alloys and manufacture of nonmagnetic spring materials
IN Nakajima, Kazumi; Kawai, Mitsuo; Momose, Kenichiro; Yagi, Noriaki
PA Toshiba Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF

DT Patent
LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 62202038	A2	19870905	JP 1986-41942	19860228 <--
	JP 07068597	B4	19950726		

AB Nonmagnetic spring materials for electronic or magnetic parts are manufd. from plates of Cu alloys contg. 5-35% each of Mn and Ni and 0.001-20% other chem. elements. These elements are selected from 2 groups: (1) Al, Si, Ti, V, Cr, Fe, Co, Ge, As, Zn, Sn, Zr, Nb, Mo, Hf, Ta, and W for total 0.01-15%, and (2) C, N, Mg, Be, P, S, Ca, Se, Y, rare-earth elements, Ag, In, Te, and Pb for total 0.001-5%. The ingots are soln.-treated, cold-worked, and then aged. Thus, a plate of Cu alloy contg. Mn 17, Ni 17, Cr 2.0, and S 0.01% was soln.-treated at 900.degree., cold-worked (10%), and aged in 3 h at 450.degree.. The sheet product (0.25 mm) with a spring crit. value of 120 kg/mm2 performed well as a magnetic head spring comparable to a Be-Cu alloy spring.

AN 1997:664412 HCAPLUS
 DN 127:361652
 TI Copper alloys having good discharge wear resistance for electric contacts
 IN Ogura, Tetsuzo
 PA Kobe Steel, Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 4 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09263864	A2	19971007	JP 1996-97785	19960326 <--
AB	Claimed Cu alloys contain 0.1-1.0 wt.% Si. Also claimed are Cu alloys contg. 0.1-1.0 wt.% Si and 0.01-6.0 wt.% (as total) .gtoreq.1 of metals selected from Mg 0.01-1.0, Al 0.01-1.0, Ti 0.01-1.0, Cr 0.01-1.5, Mn 0.01-1.0, Fe 0.01-3.0, Co 0.01-3.0, Ni 0.01-4.0, Zn 0.01-5.0, Zr 0.01-1.0, Ag 0.01-1.0, and/or Sn 0.01-2.0 wt.%.				

AN 1990:543476 HCAPLUS
DN 113:143476
TI Copper-based alloys for electric conductors
IN Hatano, Takatsugu; Toe, Tamio
PA Nippon Mining Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 02118038	A2	19900502	JP 1988-269562	19881027
AB	An elec. conductor is a Cu alloy contg. Zn 0.1-3.0, Fe 0.01-0.05, and optionally P, Sn, As, Cr , Mg, Mn, Sb, Co, Al, Ti , Zr, Be, Ag , Pb, B, Ni, and/or Si 0.001-3.0 wt.% (in total). The alloy is useful for terminals, connectors, bus bars, etc., of elec. devices owing to high elec. cond. and resistance to migration.				

AN 1995:503267 HCAPLUS
 DN 123:24209
 TI Copper alloys for electronic devices, their manufacture, and integrated circuit lead frames
 IN Taketsu, Yoshihiro; Kubozono, Kenji
 PA Mitsubishi Electric Corp, Japan
 SO Jpn. Kokai Tokkyo Koho, 8 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 07018356	A2	19950120	JP 1993-163640	19930701
AB	The alloys contain 1.0-3.0% Ni, 0.06-0.5% Si, 0.05-0.5% P, 1.0-3.0% Zn, optional 0.001-0.3% Sn, Cr, Mg, Mn, Co, Ti, Zr, Ag, B, and 0.001-0.3% Fe, and rest Cu and .ltoreq.50 ppm N2, .ltoreq.30 ppm H2, and .ltoreq.20 ppm O2. The alloys are manufd. by (1) mixing and melting Cu alloy ingots contg. the alloys, (2) heating at 750-950.degree. for .gtoreq.1 min, (3) quenching in water or oils and heating at 350-500.degree. for .gtoreq.10 min, cooling at 4.degree./min, or cooling at 4.degree./min until 500.degree. and holding or cooling at 500-350.degree. for .gtoreq.1 h, and (3) rolling.				

AN 1997:664412 HCAPLUS
 DN 127:361652
 TI Copper alloys having good discharge wear resistance for electric contacts
 IN Ogura, Tetsuzo
 PA Kobe Steel, Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 4 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09263864	A2	19971007	JP 1996-97785	19960326
AB	Claimed Cu alloys contain 0.1-1.0 wt.% Si. Also claimed are Cu alloys contg. 0.1-1.0 wt.% Si and 0.01-6.0 wt.% (as total) of metals selected from Mg 0.01-1.0, Al 0.01-1.0, Ti 0.01-1.0, Cr 0.01-1.5, Mn 0.01-1.0, Fe 0.01-3.0, Co 0.01-3.0, Ni 0.01-4.0, Zn 0.01-5.0, Zr 0.01-1.0, Ag 0.01-1.0, and/or Sn 0.01-2.0 wt.%.				

0.01-1.5 Cr
 0.01-1. Ag
 0.01-1 Ti
 0.1-1 Si
 0.01-3 Fe
 0.01-2 Sn
 Cu

AN 1990:427856 HCAPLUS
 DN 113:27856
 TI Copper alloy lead materials for plastic p-i-n grid arrays
 IN Asai, Masato
 PA Furukawa Electric Co., Ltd., Japan; Furukawa Tokushu Kinzoku K. K.
 SO Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 01198439	A2	19890810	JP 1988-21584	19880201
AB	<p> The materials with high strength and elec. cond., and an excellent solderability contain Cr 0.05-0.8; Sn 0.01-3.5%; P <100; S <100; O <20 ppm; and optionally Zn 0.05-5.0, Mn 0.01-1.0, and/or Mg 0.01-0.5 (0.01-5.0% total); Ni, Ti, V, Fe, Co, Al, Si, Zr, and Cd 0.01-1.0 and Ag, Y, Ge, Sb, Pb, Te, In, and/or rare earth metals 0.001-0.2% each (0.001-1.0% total). The resp. tensile strength, elongation, IACS elec. cond., and bonding strength in brazing with Cu for a Cu alloy lead material contg. Cr 0.24, Sn 0.12%, P 15, S 9, and O 8 ppm were 58.5 kg/mm², 1.5%, 90%, and 0.84 kg/mm² vs. 70.5 kg/mm², 2.0%, 3%, and 0.87 kg/mm² for the conventional Fe-42% Ni alloy lead material. </p>				